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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,953	07/19/2001	Robert W. Schwanke	2001P13007 US	1929
7590 08/07/2006			EXAMINER	
Siemens Corporation Intellectual Property Department 186 Wood Avenue South Iselin, NJ 08830			STERRETT, JONATHAN G	
			ART UNIT	PAPER NUMBER
			3623	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/908,953	Applicant(s) SCHWANKE, ROBERT W.	
	Examiner Jonathan G. Sterrett	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Summary

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on May 22, 2006 has been entered. Currently

Claims 1-37 are pending.

Response to Arguments

2. The applicant's arguments have been fully considered, but they are not persuasive.

3. The applicant argues that Hollingsworth and Georgakopoulos do not teach the use of "schedule rules" as part of activity specifications, which specify conditions under which activities can be scheduled for enactment based on workflow relevant data. The applicant further asserts a definition of 'schedule rules' to distinguish the instant application over the prior art by stating that the prior art 'schedule rules' are derived from 'control flow dependencies'.

The examiner respectfully disagrees.

The examiner would respectfully point out to the applicant that the term 'workflow relevant data' is an extremely broad term and would include any data

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relevant to the workflow, including data that is related or included in the control flow dependencies. Thus, control flow dependencies are 'workflow relevant data'. And therefore, schedule rules for enacting the suggested (i.e. recommended) activities are based on workflow relevant data (i.e. the preconditions for the suggested activities of the paragraph 14.

4. The applicant argues that Hollingsworth and Georgakopoulos do not teach "determining a recommended order in which the scheduled activities can be enacted based on the activity specifications and a current execution state of the process instance".

The examiner respectfully disagrees. A recommended order in which activities can be performed is exactly what Georgakopoulos teaches in paragraph 14. Here Georgakopoulos teaches that at specific times in the workflow process (i.e. depending on the execution state – that is during execution of the workflow process) the workflow system "suggests one or more optional activities to its participants". Figure 3 shows these optional activities occurring before one non-optional step and after another non-optional step. The inclusion of an optional step between two non-optional steps makes the entire order 'recommended' since it includes at least one 'optional' step that is suggested (i.e. recommended) by the system. The inclusion of only one optional step into a long list of steps changes their order. For example, if steps A, B and C include a suggested (i.e. recommended) step D that occurs before C and after

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B, then that changes the overall ordering from ABC to ABDC with ABDC being the recommended order.

The applicant further argues that the process flow is predefined and contemplated at the time the process flow is developed, however the fact that the optional activities may occur at various times then makes the overall order recommended, as discussed above, since at least one step in the order is 'suggested' (i.e. recommended).

5. The examiner would further respectfully point out to the applicant the inconsistency between determining a recommended order for scheduled activities. If the activities are scheduled (i.e. their timing and therefore the order they occur) then how can these same activities then have a recommended order determined for them? Please see the 112 2nd rejections below.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1-37** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding independent Claims 1, 20 and 29, the claim limitations cite 'scheduled activities' and determining a recommended order in which the scheduled activities can be enacted. Scheduling an activity implies that there is

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a time that is set for the activity (i.e. a schedule of activities includes when those activities will occur, e.g. a schedule of classes, a schedule of entertainment events for a holiday celebration). Thus, having scheduled activities and then determining that there is a recommended order to those activities then implies that those activities were not in fact, 'scheduled'. Therefore the claims are indefinite.

Claims 2-19, 21-28 and 30-37 depend on claims 1, 20 and 29 and are therefore indefinite at least for the reasons given above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Hollingsworth (Hollingsworth, Workflow Management Coalition, The Workflow Reference Model, Document Number TC00-1003, Issue 1.1, 19 January 1995 [GOOGLE]) and the Workflow Management Coalition (Workflow Management Coalition, Workflow Management Coalition Terminology and Glossary, Document Number WFMC-TC-1011, Issue 3.0, February 1999 [GOOGLE]) in view of Georgakopoulos et al. (U.S. Patent Application

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2002/0055849). The Examiner interprets Hollingsworth and the Workflow Management Coalition as one reference since Hollingsworth is the Workflow Reference Model using the Terminology as defined by the Workflow Management Coalition Terminology and Glossary. Hollingsworth and the Workflow Management Coalition disclose a data-triggered workflow process comprising:

- **[Claim 20]** of generating a process instance from a process definition (Workflow Management Coalition: p. 16. the Workflow Management Coalition teaches a process instance as the representation of a single enactment of a process. A process instance is created, managed and terminated by a workflow management system, in accordance with the process definition.);
- determining scheduled activities associated with the process instance using activity specifications having schedule rules that specify conditions under which activities are scheduled for enactment based on workflow relevant data (Hollingsworth: p. 13, Hollingsworth teaches the workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking applications tools as necessary. P.14 para 4, the workflow engine uses 'workflow relevant data', also known as case data, to schedule activities – see para 2, workflow relevant data is used to determine how activities are scheduled, either in parallel or sequentially).

Hollingsworth and the Workflow Management Coalition fail to teach determining which activities associated with the process instance are scheduled (and recommended) for enactment using activity specifications. Georgakopoulos et al. teach the process definition tool enables a user to model or develop a workflow process definition that is capable of being interpreted by the workflow management engine. Process definitions may reference pre-existing organization/role model data as well as external applications. An activity

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placeholder is a novel abstract activity type that enables the specification of activities whose concrete types and/or implementation may be unknown at the time a process is specified (para 31 and 48). This includes recommending an order in which scheduled activities can be enacted (para 13 and 14). It would have been obvious at the time of the applicant's invention to include the activity placeholder of Georgakopoulos et al. with the teachings of Hollingsworth and the Workflow Management Coalition since the Workflow Management Coalition teach the process definition consists of a network of activities and their relationships (Workflow Management Coalition: p. 11). Automation of processes helps companies become more efficient. Hollingsworth teaches the primary characteristic of Workflow Management is the automation of processes involving combinations of human and machine-based activities (Hollingsworth: p. 3). Georgakopoulos et al. teach process or workflow modeling and automation and workflow management software incorporate novel primitives to extend its flexibility and capability to include activities that are considered optional. Workflow systems using these primitives will be capable of supporting applications that are currently difficult, too expensive, or impossible to support with the existing rigid control flow and role assignment primitives (para 3 and 10). Therefore, implementing automation allows companies to avoid cost, therefore becoming more efficient. Hollingsworth and the Workflow Management Coalition, and Georgakopoulos et al. teach workflow management, therefore there is motivation to combine; and automation of processes, therefore there is a reasonable expectation of success. The combination of Hollingsworth and the

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Workflow Management Coalition, and Georgakopoulos et al. teach all the features of claim 20.

- **[Claim 21]** displaying a list of scheduled activities for selection by a participant of a desired scheduled activity (Georgakopoulos et al.: para 33 and 49, Georgakopoulos et al. teach the definition tool and engine support one or more primitives that enable a user to define and execute flexible and dynamic workflow models. At runtime, the resolution policy of an activity placeholder determines a specific activity type from an available pool of activity types to be submitted for the placeholder activity.).
- **[Claim 22]** recomputing an order in which scheduled activities can be enacted, if necessary, upon a change of state of an enacted activity (Georgakopoulos et al.: para 48, Georgakopoulos et al. teach an activity placeholder may be declared at any point in a process specification where an activity could be declared. Activity placeholders may be replaced at runtime by specific activities.).
- **[Claim 23]** determining if an unscheduled activity is permitted to be enacted based on activity specifications (Georgakopoulos et al.: para 31 and 48, Georgakopoulos et al. teach the process definition tool enables a user to model or develop a workflow process definition that is capable of being interpreted by the workflow management engine. Process definitions may reference pre-existing organization/role model data as well as external applications. An activity placeholder is a novel abstract activity type that enables the specification of activities whose concrete types and/or implementation may be unknown at the time a process is specified.); and
- enacting the unscheduled activity if it is permitted (Georgakopoulos et al.: para 33, 49 and 51, Georgakopoulos et al. teach the definition tool and engine support one or more primitives that enable a user to define and execute flexible and dynamic workflow models. An activity placeholder is similar to any other activity variable in a process, but its type is left unspecified at process specification time. At runtime, the resolution policy of an activity placeholder determines a specific activity type from an available pool of activity types to be submitted for the placeholder activity. In this manner, the placeholder activity primitive gives the process developer great flexibility in defining activities and processes that may not be selected or defined during runtime.).
- **[Claim 24]** determining if an activity is expected to be enacted during execution of the process instance based on activity specifications

(Hollingsworth: p. 12-13, Hollingsworth teaches the process definition contains all necessary information about the process to enable it to be executed by the workflow enactment software. This includes information about its starting and completion conditions, constituent activities and rules for navigating between them, user tasks to be undertaken, references to applications which may be invoked, definitions of any workflow relevant data which may need to be referenced, etc. The workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking application tools as necessary.); and

- preparing for enactment of the activity if it is expected (Hollingsworth: p. 13, Hollingsworth teaches the workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking application tools as necessary.).
- **[Claim 25]** upon finishing an enacted activity, generating a message specifying a state of completion of the activity, recording the state of completion in a job record of the activity, and reevaluating rules of subsequent activities, if necessary, based on the state of completion (Workflow Management Coalition, p. 9, 37-38 and 51, Workflow Management Coalition teach a workflow management system that defines, creates and manages the execution of workflows through the use of software, which is able to interpret the process definition, interact with workflow participants and, where required, invoke and the use of IT tools and applications. A Transition is a point during the execution of a process instance where one activity completes and the thread of control passes to another, which starts. A transition may be unconditional, such that completion of one activity always leads to the start of another, or conditional, where the sequence of operation depends upon one or more transition conditions. A transition condition is a logical expression, which may be evaluated by a workflow engine to decide the sequence of activity execution within a process. Transition conditions identify the flow relationship between activities and are used to effect the desired sequence of activity execution. An audit data is a historical record of the progress of a process instance from start to completion or termination. Such data normally incorporates information on the state transitions of the process instance. The Examiner interprets software that interacts with participants to be generating a message.).
- **[Claim 26]** computing an order in which scheduled activities can be enacted comprises using a resources specification of scheduled

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activity to determine a priority of the scheduled activity (Hollingsworth: p. 13 and 21, Hollingsworth teaches the workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking application tools as necessary. Interaction with external resources accessible to the particular enactment service occurs via one of two interfaces. The client application interface is responsible for organizing work on behalf of a user resource, and the invoked application interface enables the workflow engine to directly activate a specific tool to undertake a particular activity.).

- **[Claim 27]** automatically routing a data item associated with an activity based on activity specifications (Hollingsworth: p. 14, Hollingsworth teaches workflow application data is manipulated directly (and only) by the invoked applications, although the workflow engines may be responsible for transferring such data between applications (if necessary), as different applications are invoked at different activity points within the workflow process.).
- **[Claim 28]** automatically archiving a data item associated with an activity based on activity specifications (Workflow Management Coalition, p. 51, Workflow Management Coalition teach an audit data is a historical record of the progress of a process instance from start to completion or termination. Such data normally incorporates information on the state transitions of the process instance.).

Claims 1-19 and 29-37 substantially recite the same limitations as that of claims 20-28 with the distinction of the recited method being a system and a program storage device readable by a machine. Hence the same rejection for claims 20-28 as applied above applies to claims 1-19 and 29-37.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US 5848271 by Caruso discloses a process for controlling the workflow in a multi-user computing system.

US 6253369 by Cloud discloses a workflow object compiler that generates workflow objects in a recommended order of execution.

US 6282531 by Haughton discloses a system for managing workflow in multiple dimensions and contexts.

US 6041306 by Du discloses a system and method for performing a flexible workflow process execution.

US 2004/0078373 by Ghoncimy discloses a workflow system and method.

Angus, Jeff; "JetForm's Universally deployable workflow", 1998, Informationweek, Iss. 679, p.104, ProQuest ID 29161881.

M2 Presswire, "TeamWARE: TeamWARE Flow 2.0 chosen as product of choice for collaborative & ad-hoc workflow apps", Jan 1998, Coventry, p.1, ProQuest ID 25682717.

Shepherdson, JW, et.al.; "Decentralized workflows and software agents", Oct 1999, BT Technology Journal, 17, 4, ABI/INFORM Global, p.65.

Kaiser, Gail; "Cooperative Transactions for Multi-User Environments", December 1993, Columbia University, CUCS-006-93, pp.1-21.

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Kobielus, James, "The rhythm of work", Oct 16, 1995, Network World. Framingham:. Vol. 12, Iss. 42; p. SS12.

Nancy Cox, "RFP collaborative computing: 5 solutions", Aug 1, 1997, Network Computing. Manhasset:. Vol. 8, Iss. 14; p. 44.

Casey, Brian, "Hybrid PET/CT scanner highlights Siemens offerings at SNM show, "6-6-2000, Auntminnie.com, pp.1-2, from the google archive of www.auntminnie.com/articles/archive/0/500/891.

Business Editors, "Siemens Nuclear Medicine Group Leads Worldwide Market Second Year in a Row", Oct 20, 2000, article retrieved from www.rol.ru/news/it/news/src/00000075.htm.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JGS 7-26-06



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